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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,986	03/11/2004	John F. Cooper	IL-11085	6284
7550 Eddie E. Scott Assistant Laboratory Counsel Lawrence Livermore National Laboratory P.O. Box 808, L-703 Livermore, CA 94551			EXAMINER WRIGHT, PATRICIA KATHRYN	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 05/08/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/797,986

Applicant(s)

COOPER, JOHN F.

Examiner

P. Kathryn Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 1-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 17, 2008 has been entered.

Status of the Claims

2. This action is in response to papers filed March 17, 2008 in which claims 56-58 were amended. The amendments have been thoroughly reviewed and entered. Claims 1-55 are withdrawn.

Claims 56-58 are under prosecution.

Election/Restrictions

3. Amended claim 57 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Applicant elected without traverse **Group II (claims 56-59) and species c (including oxidizing elements or compounds such as chlorine, oxidative oxy-halogen compounds, found in claim 59)** in the reply filed on May 17, 2007. Claim 57, last paragraph, contains species a-b and d-e of Group II.

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4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, **species a-b and d-e** in claim 57 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 56-58 are again rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent no. 6,290,908 to Fukunaga et al., (hereinafter "Fukunaga") in view of Havlena (US Patent Pub. No. 2002/0189362).

Regarding claim 1, Fukunaga teaches a method of detecting oxidizing chemicals in a municipal water distribution system having existing pipes. Note that oxidizing chemicals in certain concentrations are considered contaminants.

The system of Fukunaga includes a supervisory control and data acquisition system (i.e., water control center 3) and water management system (i.e., water purifying facilities 1 and water distribution facilities 2), see Fig. 2.

The methodology of Fukunaga includes sensing contaminants in a water sample in an existing pipe via water quality meter 8 (see for example Fig. 2). These contaminants include oxidizing chemicals (i.e., elemental chlorine) and/or biological contaminants, see col. 5, lines 28+.

Next, Fukunaga teaches producing a signal based upon the sensing of contaminants in the water in the existing pipe and remotely transmitting the signal to a distant supervisory control and data acquisition system (water control center 3) via radio means, line transmission, satellite, etc. The supervisory control and data acquisition system 3 receives the signal indicating contaminants in the water and controls the water purifying facilities 1 and water distribution facilities 2 accordingly (see col. 4, line 48- col. 5, lines 5).

Fukunaga does not specifically teach the signal being an acoustic signal communicated by the existing water filled pipes which act as channels for transmitting the acoustic signal in the existing pipe, and a receiver that recovers the acoustic signal from the fluid.

Havlena teaches a system for monitoring water pressure with a transmitter that sends an acoustic signal into the water within an existing water pipe. The water filled pipe acts a channel to transmit the acoustic signal. The acoustic signal is received in a corresponding receiver for recovering the acoustic signal. The motivation for using acoustic wave propagation through the supplied fluid medium itself is advantageous in that would eliminate the additional costs of equipment in Fukunaga, such as, external wires which can be easily damaged (see par. [0001] of Havlena).

Accordingly, one of ordinary skill in the art at the time of the claimed invention would have found it obvious to substitute the acoustic transmitter/receiver arrangement in Havlena for the signal transmission system in the fluid treatment system of Fukunaga since it eliminates the significant if not prohibitive cost of communication infrastructure (see par. [0001] and [0022] of Havlena).

Response to Arguments

8. Applicant's arguments filed March 17, 2008 have been fully considered but they are not persuasive. Applicant again asserts with respect to the rejection of claims 56-58 under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Havlena that all the claim limitations have not been met by the combined references Fukunaga and Havlena.

The Examiner respectfully disagrees. Applicant's arguments do not clearly point out the patentable novelty which Applicant thinks the claims present in view of the state

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of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

In the REMARKS/ARGUMENTS section of the above referenced reply, Applicant has merely recopied part of claim 56. Applicant merely states that the limitations in the claim are not shown by Fukunaga or Havlena, and a *prima facie* case of obviousness can not be established. Applicant's arguments do not clearly point out the patentable novelty which Applicant thinks the amended claims present in view of the Fukunaga and Havlena references.

In response to Applicant's argument that there is no suggestion to combine the references and nor reasonable expectation of success with the proposed combination, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case, obviousness has been established for combining or modifying the teachings of the applied prior art to produce the claimed invention since Havlena provides motivation to do so. That is, Havlena teaches that the use of acoustic wave propagation through the supplied fluid medium itself is advantageous in that it eliminates the additional costs of equipment, such as, the external wires used in Fukunaga which can be easily damaged (see par. [0001] and [0022] of Havlena).

In response to Applicant's statement that neither the Fukunaga or the Havlena reference recognizes the problem solved by Applicant's claimed invention (i.e.,

providing early warning of contamination of water in a municipal water distribution system by detecting contaminants introduced therein), the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.

Accordingly, the rejection of claims 56-58 under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Havlena is maintained.

Conclusion

9. No claims are allowed.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Kathryn Wright whose telephone number is 571-272-2374. The examiner can normally be reached on Monday thru Thursday, 9 AM to 6 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

pkw